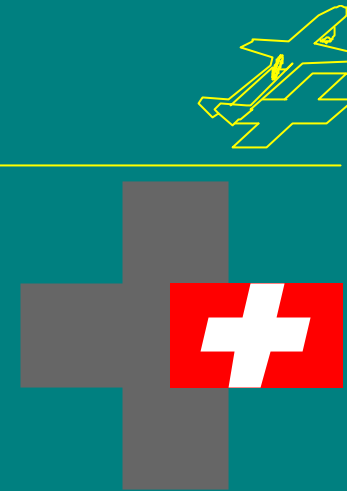




LUFTWAFFE  
FORCES AERIENNES  
FORZE AEREE  
SWISS AIR FORCE



## ADS 95 RANGER

### Training & Lessons Learned

EURO UVS, Paris, June 14, 2002

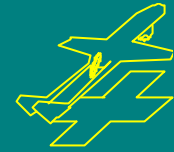
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# Agenda

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- Prerequisites
- Types of Operators
- Training and Formation
- Mission Simulator
  - Technical Aspects
  - Training Aspects
- Experience / Lessons Learned
- Questions



- **Two governing documents**
  - MFV defines ,overhead' directives of personnel involved in flight operations
  - MFV = Militärflugdienstverordnung = Military Flight Service Regulation
  - VDO defines directives of personnel involved in ADS 95 operations
  - VDO = Verordnung für Drohnenoperateure = UAV Operator Regulation

# Prerequisites

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- **Flight duty regulations:**
  - Maximum no-flight/sim time 6 weeks (calendar time)
  - Minimum 45 flight hours p.a., of which max. 50% in the MI SIM
- **Military regulations:**
  - 25 Service days
  - 17 Days in Training Courses
  - 8 Days individual training

# Types of Operators

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- **Internal Pilots:**

The Internal Pilot is responsible for the conduction of the flight from Take-Off to Landing.

- **Payload Operators:**

The Payload Operator operates the TV- or Infrared Camera from Take-Off to Approach. His support is required for the Approach and Landing Phase.

# Training & Formation



## Requirements for professional operators

### Internal Pilots:

CPL I FR-Licence

### Observers:

PPL-Licence

## Initial Training Course, Duration:

Total 2-3 months

2 weeks theory including first MI SIM-Exercises

6-10 weeks flight training/MI SIM

Total 7 to 10 flights and  
7 to 10 MI SIM-missions  
before first Solo-Flight

Total 15 flights and  
5 MI SIM-missions  
before first Solo-Flight

Graduation to Drone Operator after ~60 hrs of real flight time.

# Training & Formation

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## Requirements for militia operators

### Internal Pilots:

ATPL-Licence

150 of 'Service-Days' left

### Observers:

PPL-Licence

150 of 'Service-Days' left  
Intelligence Officer

## Initial Training Course, Duration:

Total 6 weeks

2 weeks theory including first MI SIM-Exercises

4 weeks flight training/MI SIM

Total 7 to 10 flights and  
7 to 10 MI SIM-missions  
before first Solo-Flight

Total 15 flights and  
5 MI SIM-missions  
before first Solo-Flight

Graduation to Drone Operator after ~60 hrs of real flight time.



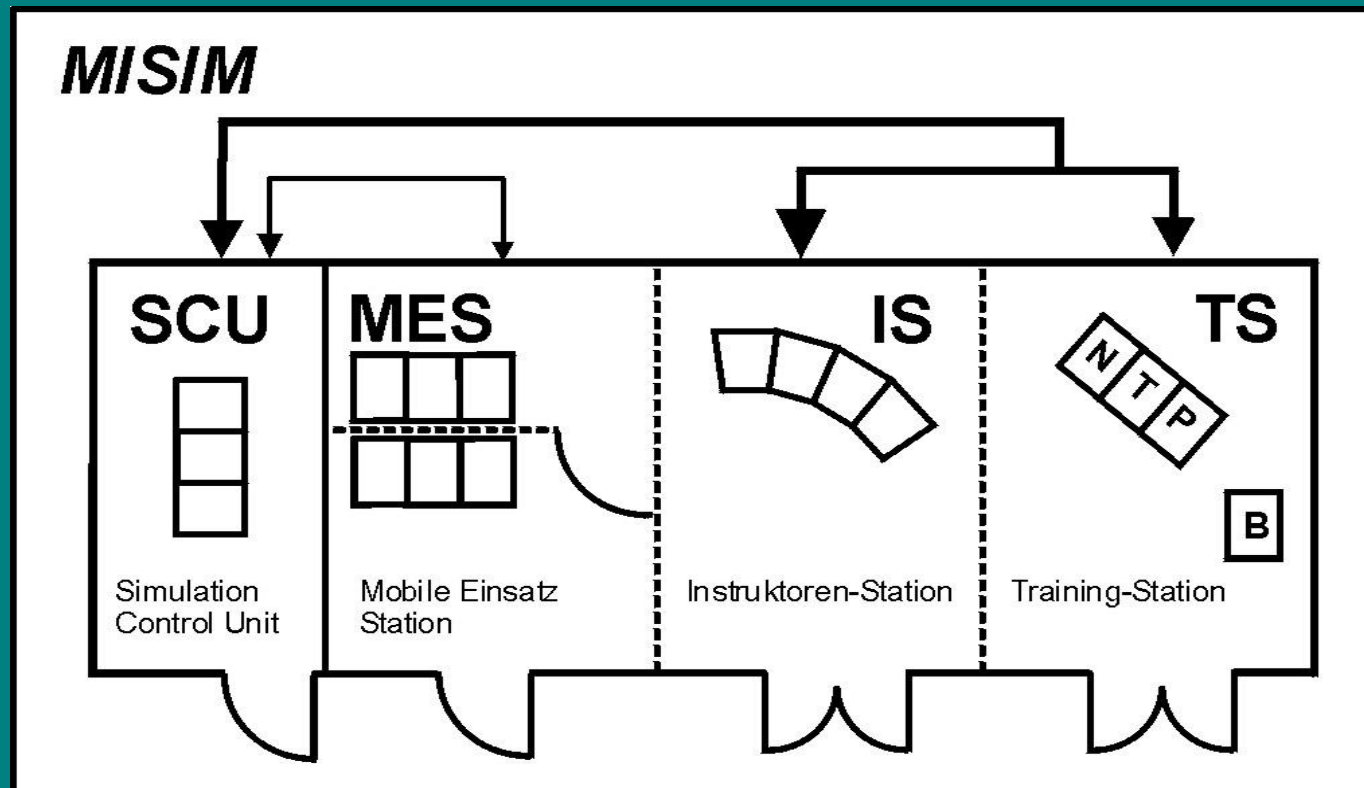
# Mission Simulator (MISIM)

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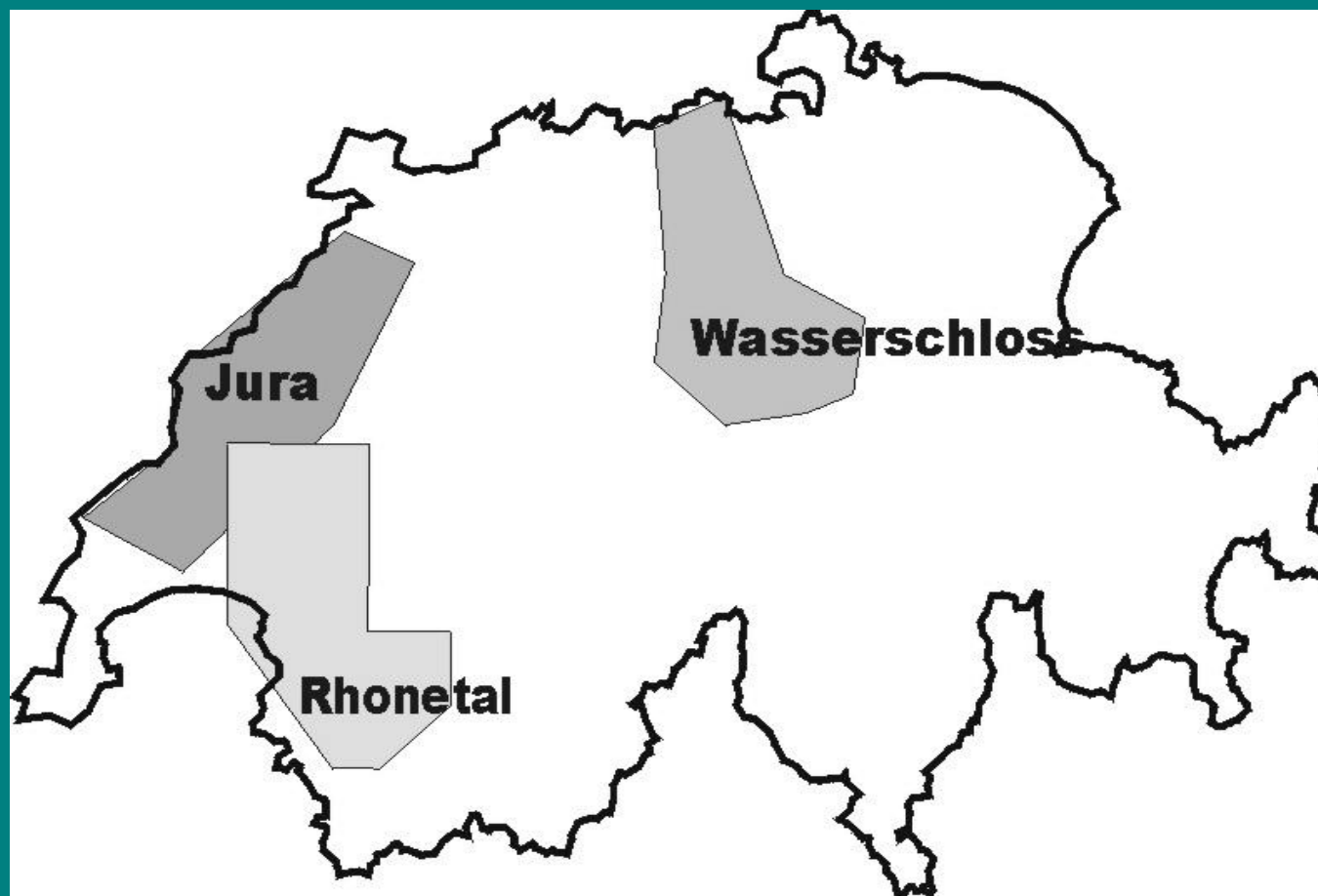
- Purpose
  - Essential tool for the formation/training of both professional and militia operators at all levels (initial training upwards)
  - All crew stations and crew functions can be trained and exercised:
    - Internal Pilot
    - Payload operator
    - MRU-operator
    - UAV intelligence officer
    - Artillery fire control officer
    - other (i.e. fire fighter operations officer etc.)

# Mission Simulator (MISIM)



General Layout

# Mission Simulator (MISIM)



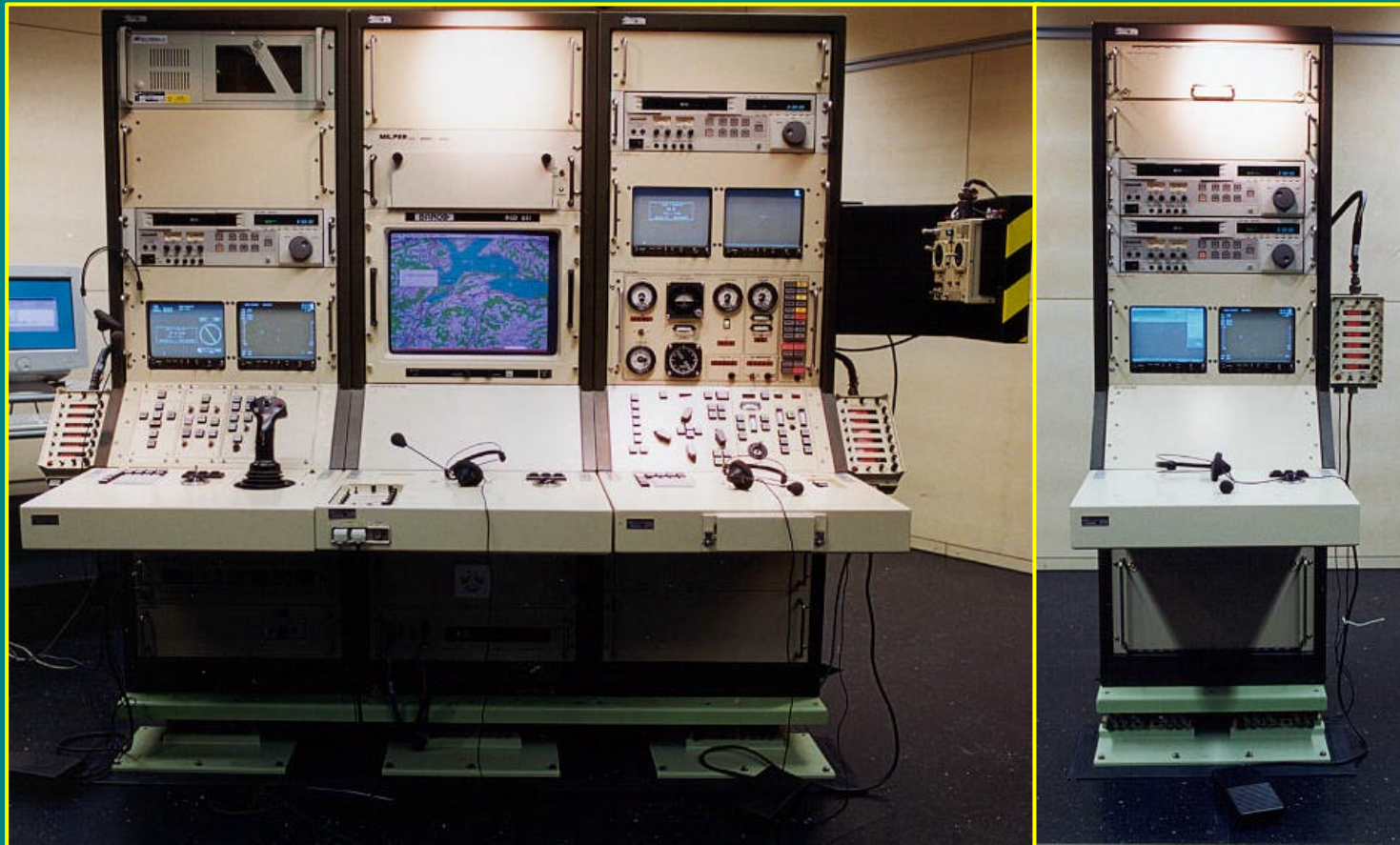
Database

# Mission Simulator (MISIM)



Instructor Station

# Mission Simulator (MISIM)



Trainee Station



# Questions ?



